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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

#11
C/H/2/3/02

Applicant: Gary T. Ketchum
Serial No.: 09/788,274
Filed: February 16, 2001
Gr. Art Unit: 3764
Examiner: Michael A. Brown

For: LEAK POINT WETNESS SENSOR FOR
UROLOGICAL INVESTIGATION

Pasadena, California 91101

December 19, 2002

APPELLANTS BRIEF

Honorable Commissioner for Patents
Washington, D.C. 20231

Sir:

This brief is submitted in support of applicant's appeal from the final rejection of claims 1-4 by the Primary Examiner herein.

REAL PARTY OF INTEREST

The real party in interest herein is the applicant's assignee ANDCO TEK, INC, a California corporation. The assignment was recorded in the United States Patent and Trademark Office on April 26, 2001 at Reel/Frame 0117501/0476, the undersigned has been instructed to file this brief on its behalf.

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RELATED APPEALS AND INTERFERENCES

There is no other appeal or interference known to the applicant or assignee, his or its legal representative or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

SUMMARY OF INVENTION

The invention is a detector for leakage from the urethra. The leakage occurs between the inner wall of the urethra and the outer wall of a catheter that is inserted in the urethra. When the patient responds to the physician's instructions, internal pressure in the bladder will cause leakage which is resisted by the urethra. This event and the time and pressure accompanying it are important diagnostic information.

Because the leaked fluid is intercepted close to the body it is at, or nearly at, body temperature. The presence of a liquid at a defined temperature or rate of change of temperature is used as the sensed event (page 2 line 21-page 3 line 24).

Referring to the drawings a catheter 16 is inserted into the urethra (not shown). Leaked fluid 50 (Fig. 1) flows down the urethra to the instrument. Body 11 has a receptacle 21 to catch the fluid. A temperature sensitive detector sensor 28 located in the receptacle is contacted by the fluid, and this informs a comparator 32 of the temperature, which is then compared to a signal from a signal generator 33 simulative of body temperature.

When there is sufficient coincidence, a signal-recorder 35,36 records and informs of the event.

Rates of change of temperature are of interest. As shown in Fig. 5, this situation can be signalled and also alerted by a rate of change detector 40. This enables the instrument to respond to various temperatures independently of room temperatures or conditions. When the temperature changes too much, it signals.

Attention is directed to the fact that only one temperature sensor is used. This is an important distinction from the earlier embodiment of the instrument shown in the reference patent No. 5,862,804, of which this is an improvement.

ISSUES

The only issue is whether applicant's prior patent No. 5,862,804 (Ketchum) anticipates the claims herein under Section 102(b).

GROUPING OF THE CLAIMS

Claims 1-3 may be considered generic, because they relate only to the detection of leakage of a defined temperature or temperature range (Figs. 1-4).

Claim 4 relates to the same system, except that it responds to a rate of change of the temperature.

ARGUMENT

All of the claims have been rejected on Ketchum 5,862,804

under section 102 (b) as clearly anticipated. This rejection reflects the fact that the basic construction of the instrument in this application is identical to the construction in the reference. The use and objectives of the instruments are also identical. What differs is the precise point of novelty as recited in the instant invention.

This invention was made to overcome some objections to the originally patented construction. In the reference, ambient (room) temperature is sensed by a sensor on the instrument that responds to ambient temperatures and is used as one part of a computational exercise to signal the event of leakage. The liquids temperature is sensed by a second sensor in the instrument's passage. The difference between the temperatures is used to determine when or whether the event occurs.

The reference arrangement requires both of the two sensors. This adds cost and complexity. Even worse, the sensor responding to ambient temperatures is not all that consistent. An open door or a breeze, for example, can change its temperature and response, or perhaps it is obscured in some way. Then the comparative effect between the sensors may be prevented, or rendered undependable. This invention substitutes circuitry which is independent of ambient, eliminating one sensor and enabling adjustment of the instrument to accommodate local existing conditions.

There are two embodiments. Both utilize one temperature sensor which is contacted by the liquid. The embodiments differ because the actual temperature is used in the first embodiment, and the rate of change of temperature is used in the other. Neither requires a second sensor.

The apparatus of claim 1 includes a circuit simulative of a selected temperature. The surgeon simply sets the circuit at some level- he may not know what temperature it simulates, although he might. In whatever event the circuitries simulated temperature will be lower than that of the expected temperature of the leakage.. Then when the sensor senses a temperature sufficiently above the simulated level, the circuitry responds with a signal, recorded data, and whatever else may be desired. Instead of a second sensor, there is merely a knob somewhere to set the instrument.

The other embodiment (claim 4) senses the rate at which the temperature increases when the liquid from the body wets it. When the sensor is dry and exposed to ambient it has a given resistance. If the surrounding temperature changes from time to time, the circuitry does not respond. However, when the sensor is contacted by leaked fluid ,it swiftly changes its resistance. The circuitry senses this rate of change. In this embodiment there is no necessary adjustment, other than for the rate of change, if such is desired.

The resulting instruments are simple, less expensive, and free of complications that can bother the reference device. There is no showing or suggestion of instruments with such provisions or capacity.

The mere usage of common structure (except for two sensors in the reference and only one in this application), does not, it is submitted, show or fairly suggest an instrument without one of the required elements of the reference apparatus (the second sensor) nor of components which provide a suitable signal without it.

There is no showing or suggestion of an adjustable circuit to provide simulated base signal, or of a rate of change sensitive circuit which does not rely on any particular temperature at all.

CONCLUSION

The final rejection does not show or fairly suggest applicant's invention. It should be reversed and the claims allowed. Such a decision is respectfully solicited.

Respectfully submitted



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APPENDIX

The claims in this appeal read as follows:

1 1. A leak point wetness sensor for urological
2 investigations comprising:

3 an instrument body having a passage therethrough to
4 pass a catheter, which catheter is intended for insertion into
5 the bladder through the urethra;

6 a receptacle in said instrument body so arranged and
7 disposed as to receive liquid which leaks from the urethra past
8 the inserted catheter;

9 a temperature sensitive detector sensor mounted to said
10 instrument body where it will be contacted by said leaked liquid,
11 said detector sensor being responsive to the temperature of said
12 liquid and adapted to provide a signal output respective to said
13 temperature;

14 a circuit adapted to generate and provide a reference
15 output simulative of a selected temperature below that of an
16 anticipated temperature of said leaked liquid; and

17 a comparator responsive to the difference between said
18 outputs to detect and inform when the signal output sufficiently
19 exceeds said reference output.

1 2. Apparatus sensor according to claim 1 in which drainage
2 channels extend from said receptacle to the outside of said body

3 to drain liquid from the receptacle.

1 3. Apparatus according to claim 1 in which recorder means
2 records related data when wetness is detected.

1 4. A leak point wetness sensor for urological
2 investigations comprising:

3 an instrument body having a passage therethrough to
4 pass a catheter, which catheter is intended for insertion into
5 the bladder through the urethra;

6 a receptacle in said instrument body so arranged and
7 disposed as to receive liquid which leaks from the urethra past
8 the inserted catheter;

9 a temperature sensitive detector sensor mounted to said
10 instrument body where it will be contacted by said leaked liquid,
11 said detector sensor being responsive to the temperature of said
12 liquid and adapted to provide a signal output respective to said
13 temperature;

14 a circuit adapted to respond to change a temperature of
15 said leaked fluid when said change occurs at a rate indicative of
16 contact with leaked liquid whose temperature approaches that of a
17 human body.